DOCUMENT RESUME

ED 067 306 SO 002 335

AUTHOR Treaner, Hugh J.; Murray, C. Kenneth
TITLE Verbal and Cognitive Behavior Patterns in the Classrooms of Selected Social Studies Teachers.
PUB DATE Nov 71
NOTE 9p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Classroom Communication; Classroom Research; Cognitive Development; *Cognitive Processes; Interaction Process Analysis; Secondary School Teachers; *Social Studies; Speeches; *Teacher Behavior; *Verbal Communication

ABSTRACT

This study was intended to obtain baseline data in the areas of verbal and cognitive behavior patterns of selected secondary social studies teachers. Hypotheses for study were that there will be no significant difference between: 1) observed verbal teaching behaviors of the highest and lowest ranked teachers; 2) the observed cognitive behavior of the highest and lowest ranked teachers; and, 3) the observed cognitive behavior of the students of the highest and lowest ranked teachers. Instruments used to measure the verbal and cognitive behavior were Teaching Situation Reaction Test (TSRT), the Observational System for Analysis of Classroom Instruction (OSACI), and the Florida Taxonomy of Cognitive Behavior (FTCB). Thirty secondary social studies teachers were selected for the sample--those ranking in the upper and lower quartiles of the TSRT. The variables under investigation were the verbal teaching behaviors as measured by the OASCI and the cognitive classroom behavior of the teachers and their students as measured by the FTCB. Findings indicate that the cognitive behavior patterns of teachers and students can be identified and the cognitive behavior differs mostly at the higher levels of cognition. (More specific findings are detailed in the document.) (Author/JLB)

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

ED 067306

VERBAL AND COGNITIVE BEHAVIOR PATTERNS IN THE CLASSROOMS OF SELECTED SOCIAL STUDIES TEACHERS

Hugh J. Treaner
Malden Public Schools
Malden, Massachusetts

C. Kenneth Murray
West Virginia University

SP002335

A paper read at the annual meeting of the National Council for the Social Studies, Denver, Colorado, November, 1971

FILMED FROM BEST AVAILABLE COPY

INTRODUCTION

The National Council for the Social Studies (9) has pointed out that throughout the country plans are underway for a general reorganization and upgrading of the social studies curriculum. This reorganization of the curricula is the same type of curriculum change that has already taken place in the natural sciences. The curricula of the natural sciences has changed from one of a content oriented field to one of process which encourages inquiry and problem solving approaches in science classes. Research of Farmer (16) and Spore (13) in this domain, indicates that verbal skills in: (1) conducting stimulating class discussions; (2) handling students' questions; and (3) developing critical thought and problem solving abilities are important to successful science teaching.

Many educators have voiced a desire to have students working at higher levels of cognition. (3, 12, 14) Taba (14) cites the need for social studies instruction to incorporate, on a larger scale, the process of thinking. Thinking encourages both teacher and pupil in the social studies classroom to use social studies content material for higher mental processes.

In the area of the new social studies curriculum projects, Jareolimek (12) calls for an elevation of cognitive behavior in the classroom from the knowledge level to higher levels of cognitive processes and Fenton (3) has hypothesized that an analysis of cognitive behavior, using a taxonomy approach, would facilitate exploration of new methods of teaching at higher intellectual levels.

High level cognitive behavior, according to Fair and Shaftel (2), can be learned only by doing, which puts the teaching role in a new perspective. If students are to learn the cognitive skills and so develop the appropriate conceptual schemes by their own effort, the role of teaching must be revised. Instead of telling, teachers need to learn to ask questions which guide the students search and lift the levels of thought.

An additional factor which is considered important in the classroom is the verbal behavior of teachers. Social studies educators (3, 11) give credence to the value of assessing classroom verbal behavior by including materials for this activity in their recent books designed for pre-service and in-service teachers.

PROBLEM

Both verbal and cognitive behavior patterns are revealed as important aspects of the total teaching behaviors displayed in social studies classrooms. Today, there is a lack of empirical research examining both behaviors with in-service social studies teachers. The National Council for the Social Studies has expressed a need for obtaining such data, concerning in-service social studies teachers. Havighurst (4) proposes that it is imperative to know much more than we now know about the people who are teaching or will teach the social studies during a time of curriculum reorganization.

Therefore, this study was intended to obtain baseline data in the areas of verbal and cognitive behavior patterns of selected secondary social studies teachers. Within this study's framework the following purposes seem appropriate:

1. To identify these verbal behaviors of teachers and students which are present in secondary social studies teachers' classrooms.

2. To identify these cognitive behaviors of teachers and students which are present in secondary social studies teachers' classrooms.

HYPOTHESES

The problem (s) of this research study was/were stated as hypotheses in the null form:

1. There will be no significant difference found between the observed verbal teaching behaviors of the highest ranked teachers and the lowest ranked teachers when ranked by scores on the T.S.R.T. and measured by the Observational System for Analysis of Classroom Instruction.

2. There will be no significant difference found between the observed cognitive behavior of the highest ranked teachers and the lowest ranked teachers when ranked by scores on the T.S.R.T. and measured by the Florida Taxonomy of Cognitive Behavior.

3. There will be no significant difference found between the observed cognitive behavior of the students of the highest ranked teachers and the lowest ranked teachers when ranked by the scores of their teachers on the T.S.R.T. and measured by the Florida Taxonomy of Cognitive Behavior.

METHODOLOGY

Sample and Population

The parent population for this study consisted of sixty secondary social studies teachers from Lewis, Monongalia, and Preston Counties in West Virginia. All sixty teachers were administered the Teaching Situation Reaction Test during the first two weeks of January, 1971.

The teachers were ranked from highest to lowest according to scores on the T.S.R.T. The social studies teachers who were selected for the sample were those subjects who were ranked in the upper and lower quartile of the T.S.R.T. This is a modification of the high and low 27 per cent design (15) used in previous research with the T.S.R.T.

Design Explanation

An ex-post facto non-experimental design (6) was employed in the study.

The sample consisted of thirty social studies teachers who were observed for 30 minutes each during five class periods. The data collectors observed, classified, and recorded the on going verbal and cognitive behavior using the O.S.A.C.I. and the F.T.C.B.

Statistical Treatment

A Mann-Whitney U Test was conducted to determine if any significant difference existed in the verbal and cognitive behavior between the two groups of teachers. The U statistic (10) is one of the most powerful of the nonparametric tests and it is a most useful alternative to the parametric t test when the researcher wishes to avoid the t test assumptions.

The U test (9) is based on the motion that, if scores of two similar groups are ranked together, as though they were one, there will be a considerable intermingling of the two groups' rankings. If one group significantly exceeds the other, then most of the superior group's rankings will be higher than those of the inferior group.

The U test statistical treatments resulted in U values which were then examined to determine if the difference between the ranks of the subjects, as reflected by the U values, were enough to be significantly different. The pre determined level at which a difference would be considered significant was the .05 level of significance.

ANALYSIS

The variables under investigation were the verbal teaching behaviors as measured by the O.A.S.C.I. and the cognitive classroom behavior of the teachers and their students as measured by the F.T.C.B. All verbal and cognitive data were collected by three trained observers who had previously received special training in the use of the data gathering instruments. Inter-observer reliabilities were above .80.

The data of the verbal and cognitive behavior of each subject was recorded and then punched on IBM cards. The data was then analyzed by an IBM 360/70 computer.

Conclusions and Comments

1. As demonstrated in this study, there is evidence to support that some significant differences exist in the observed verbal teaching behavior of selected secondary social studies teachers who scored in the upper and lower quartiles on the T.S.R.T. (when measured by the O.S.A.C.I.)

This supports similar studies by Amidon and Giammattee (1) and Pankratz (8) in that the verbal behavior patterns of teachers who scored high on the T.S.R.T. differed from those of other teachers.

The secondary social studies teachers who ranked high on the T.S.R.T. differed significantly from the low ranked teachers in that the high ranked teachers exhibited more:

1. praise or encouragement as students in their classrooms
2. praise and encouragement of student action and behavior
3. questions in their classrooms
4. omitted student response
5. difference in handling silence and contemplation
6. indirect teacher talk
7. extended indirect teacher talk

Also, the low ranked teachers exhibited more:

8. directed practice or activity
9. confusion and/or irrelevant behavior

2. As demonstrated in this study, there is evidence to support that some significant differences exist in the observed cognitive behavior of selected secondary social studies teachers who scored in the upper and lower quartiles on the T.S.R.T. (when measured by the F.T.C.B.).

The secondary social studies teachers who ranked high on the T.S.R.T. differed significantly from the teachers who ranked low in that the high ranked teachers exhibited more:

1. knowledge of universals
2. cognitive behavior at the level of analysis
3. cognitive behaviors at the level of synthesis
4. cognitive behavior at the level of evaluation

TABLE I

U-TEST OF THE HIGH AND LOW RANKED TEACHERS
ON THE CATEGORIES OF THE O.S.A.C.I.

Category	U'	U-Value	Significance P
1	157.5	67.5	N.S.
2	199.0	26.0	.002
3	211.0	14.0	.002
4	186.0	39.0	.002
5	159.0	69.0	N.S.
6	117.0	103.0	N.S.
7	104.0	121.0	N.S.
8	122.0	108.0	N.S.
9	148.0	76.5	N.S.
10	138.0	89.0	N.S.
11	213.0	12.0	.002
12	151.0	74.0	N.S.
13	170.0	49.0	.02
14	187.0	58.0	.05
15	123.0	102.0	N.S.
16	170.5	54.5	.02
I/D Ratio	214.0	11.0	.002
Rev. I/D Ratio	214.0	11.0	.002
Dir. Stud. Talk	160.0	65.0	N.S.

TABLE II

U-TEST OF THE HIGH AND LOW RANKED TEACHERS
ON THE CATEGORIES OF THE F.T.C.P.

Category	U'	U-Value	Significance P
1.10	120.0	105.0	N.S.
1.20	117.0	108.0	N.S.
1.30	188.5	56.5	.05
2.00	150.5	74.5	N.S.
3.00	155.5	69.5	N.S.
4.00	160.5	64.5	N.S.
5.00	211.5	13.5	.002
6.00	166.5	58.5	.05
7.00	166.5	58.5	.05

TABLE III

U-TEST OF THE STUDENTS OF THE HIGH AND LOW RANKED TEACHERS
ON THE CATEGORIES OF THE F.T.C.B.

Category	U'	U-Value	Significance P
1.10	117.0	108.0	N.S.
1.20	114.0	111.0	N.S.
1.30	172.0	53.0	.02
2.00	162.5	62.5	.05
3.00	160.0	65.0	N.S.
4.00	187.5	37.5	.002
5.00	201.0	24.0	.002
6.00	201.0	24.0	.002
7.00	187.0	38.0	.002

3. As demonstrated in this study, there is evidence to support that some significant differences exist in the observed cognitive behavior of the students of selected secondary social studies teachers who scored in the upper and lower quartiles on the T.S.R.T. (when measured by the F.T.C.B.).

The students of secondary social studies teachers who ranked high on the T.S.R.T. differed significantly from the students of teachers who ranked low in that the students of the high ranked teachers exhibited more:

1. knowledge of universals
2. translation
3. application
4. analysis
5. synthesis
6. evaluation

These findings indicate that the cognitive behavior patterns of teachers and students can be identified and the cognitive behavior differs mostly at the higher levels of cognition.

REFERENCES

A. BOOKS

1. Amidon, E. J. and M. Giammatteo. "The Verbal Behavior of Superior Elementary Teachers." In E. J. Amidon and J. B. Hough (Eds.), Interaction Analysis: Theory, Research and Application. Reading, Mass.: Addison-Wesley, 1967.

2. Fair, Jean and Fannie Shaftel. Effective Thinking in the Social Studies. Washington, D.C.: National Council for the Social Studies, 1967, p. 45.

3. Fenton, Edwin. Teaching the New Social Studies. New York: Holt, Rinehart and Winston, Inc., 1967.

4. Havinghurst, Robert J. "Needed Research on Cultural Backgrounds, Attitudes Knowledge, and Training of Social Studies Teachers." In Ray A. Price, Needed Research in the Teaching of the Social Studies, Washington, D.C.: National Council for the Social Studies, 1964, pp. 69-78.

5. Jarolimek, John. Social Studies in Elementary Education, New York: The Macmillan Company, 1967.

6. Kerlinger, Frederick N. Foundations of Behavioral Research, New York: Holt, Rinehart and Winston, Inc., 1964.

7. Massialas, Byron and C. Benjamin Cox. Inquiry in Social Studies. New York: McGraw-Hill Book Company, 1966.

8. Pankratz, R. "Verbal Interaction Patterns in the Classrooms of Selected Physics Teachers." In E. J. Amidon and J. B. Hough (Eds.), Interaction Analysis: Theory, Research and Application. Reading, Mass.: Addison-Wesley, 1967, pp. 189-209.

9. Price, Ray A. Needed Research in the Teaching of the Social Studies, Washington, D.C.: National Council for the Social Studies, 1964.

10. Siegal, Sidney. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Book Company, Inc., 1956, pp. 119-123.

11. Smith, Frederick R., and C. Benjamin Cox. New Strategies and Curriculum in Social Studies. Chicago: Rand McNally and Company, 1969.

B. PERIODICALS

12. Jarolimek, John. "The Taxonomy: Guide to Differentiated Instruction," Social Education, XXVI (November, 1962), pp. 445-446.

13. Spore, Leroy. "The Competencies of Secondary School Science Teachers." Science Education, LVI (October, 1963), pp. 319-334.

14. Taba, Hilda. "The Teaching of Thinking," Elementary English, XLIII (May, 1965), pp. 542-44.

C. UNPUBLISHED PAPERS AND DISSERTATIONS

15. Duncan, James K. anddJohn B. Hough. "Technical Review of the Teaching Situation Test." The Ohio State University, College of Education, 1966 (Mimeographed).

16. Farmer, Walter A. Jr., "The Image of the Competent Secondary School Science Teacher as Seen by Selected Groups." Ph. D. Dissertation, The Ohio State University, 1964.